

In-Class Assignment 3

Problem 1:

Plot V_o as a function of V_i for the circuit shown in Fig. 1. Assume a constant-voltage diode model of 0.7 V

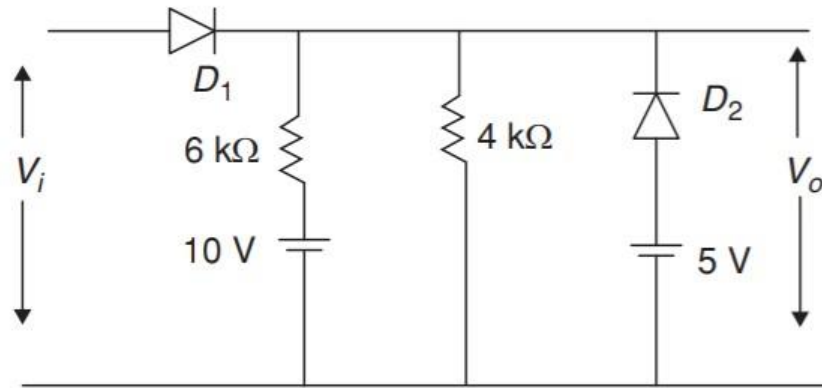


Fig.1

Problem 2:

“Wave-shaping” applications require the input/output characteristic illustrated in Fig. 2. Using ideal diodes and other components, construct a circuit that provides such a characteristic. (Assume slope 0.5 for linear parts of the curve)

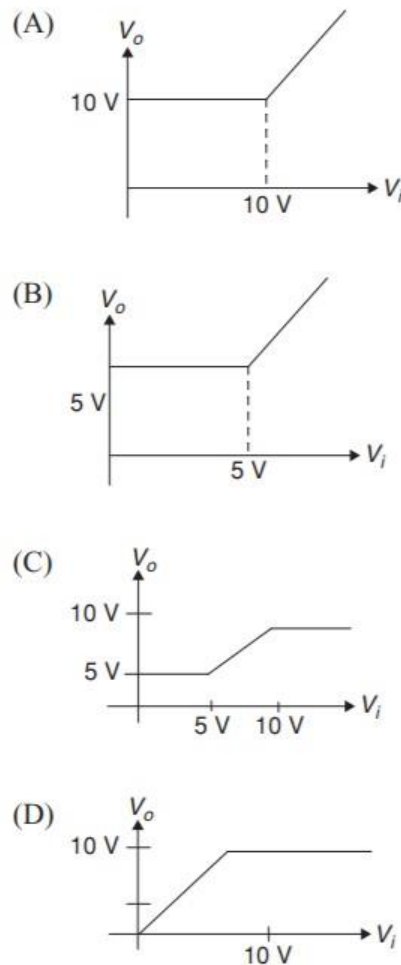


Fig.2

Problem 4:

If the voltage V_s in Fig. 3 is described by the straight line given, what is the maximum value of V_o ?

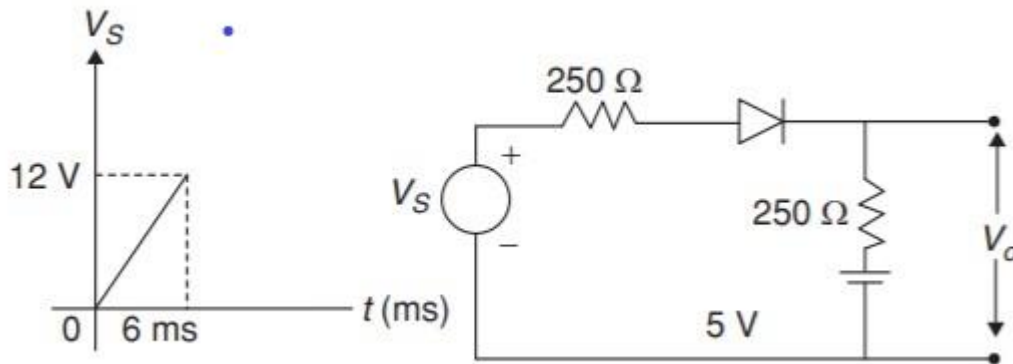


Fig.3

Problem 4:

What is the value of V_o in Fig. 4 assuming Ideal diodes model?

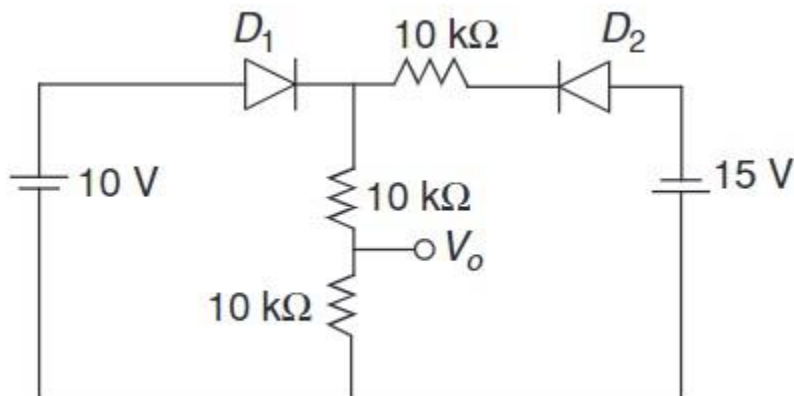


Fig.4